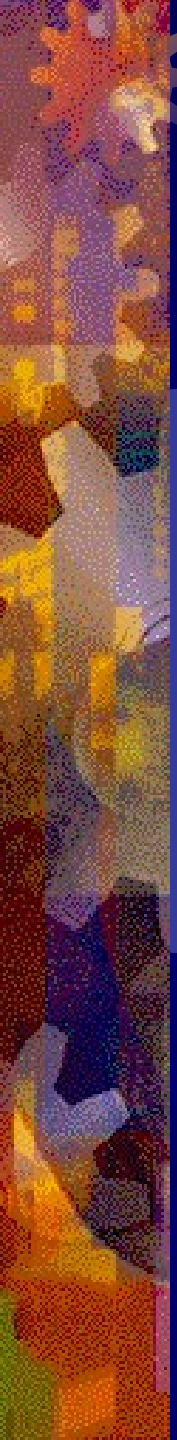


OVERVIEW OF DIRECT RESTORATIVE THERAPY

Department of Dental Science
Academy of Health Sciences
AMEDDC&S

WHY RESTORE TEETH ??

- INTERCEPT / PREVENT DISEASE
  - SUFFERING
  - MORBIDITY / MORTALITY FROM INFECTIONS
- ESTHETICS
- TRAUMA
- FUNCTION
  - MASTICATION
  - SPEECH

WHEN TO RESTORE ??

- CARIES: SMOOTH SURFACE
  - EXTENSION OF CARIES INTO DENTIN
  - RISK FACTORS FOR PROGRESSION
- DEEP DEVELOPMENTAL GROOVES
  - POST TEETH: OCCLUSAL
  - MAX ANTERIORS: LINGUAL
- DEFECTIVE RESTORATIONS ???
  - CONTROVERSIAL
  - REPAIR OR REDO ??

WHAT IS DEFECTIVE ???

- RECURRENT CARIES
- FRACTURE / NON-RETENTIVE
- OPEN AND UNREPAIRABLE MARGIN
- UNACCEPTABLE ESTHETICS
- SYMPTOMATIC
  - MICROLEAKAGE
  - OCCLUSAL CONTACT
  - PROXIMAL CONTACT

RESTORATIVE CHALLENGES

- RETENTION / RESISTANCE
  - STAYS WITHIN INTENDED AREA
  - WEAR / DEFORMATION
  - FRACTURE
- ESTHETICS
- **MICROLEAKAGE**

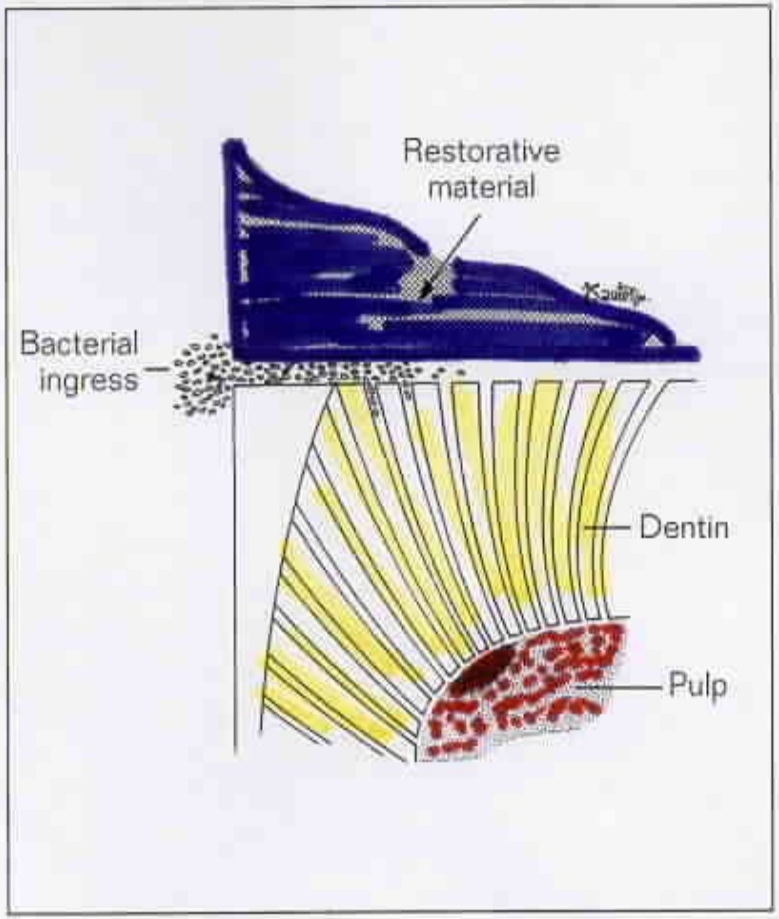


Fig 5-1a Bacteria will penetrate the marginal gap and dentinal tubules from the saliva, which may cause pulpal irritation, pulpal necrosis, or recurrent caries.

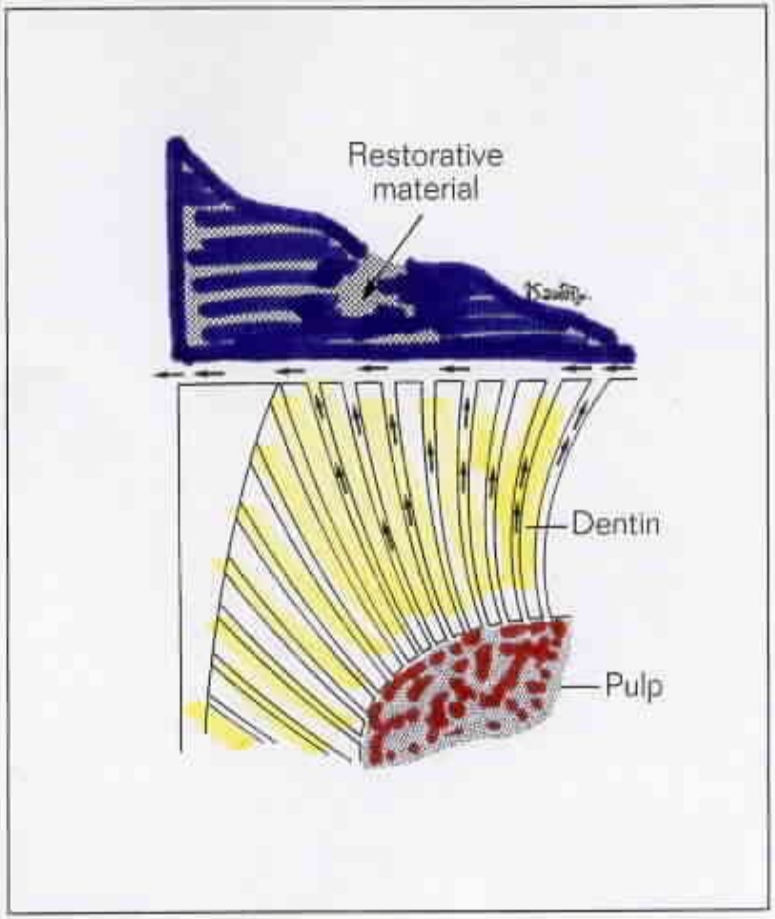
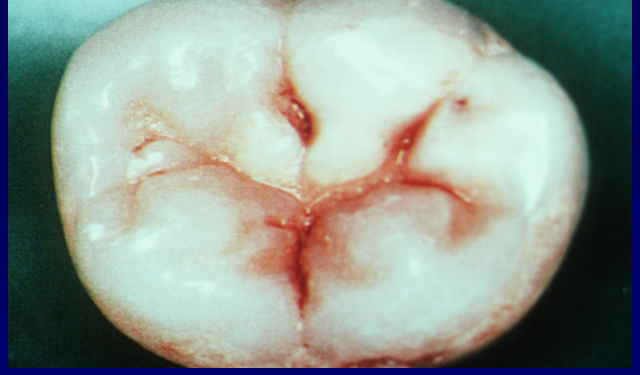


Fig 5-1b If a restoration is not well sealed, fluid flows out of the dentinal tubules and into the space between the restorative material and the tooth surface *(arrows)*. A stimulus such as hot or cold causes a change in the flow rate, which is interpreted by mechanoreceptors as painful.

DIRECT RESTORATIVE STRATEGIES

1. SEALANTS
2. PREVENTIVE RESIN / AMALGAM WITH SEALED GROOVE EXTENSION
3. AMALGAM
   A. WITH VARNISH OR ALONE
   B. BASE AND / OR DBA
4. RESIN COMPOSITE
5. RESIN MODIFIED GLASS IONOMER

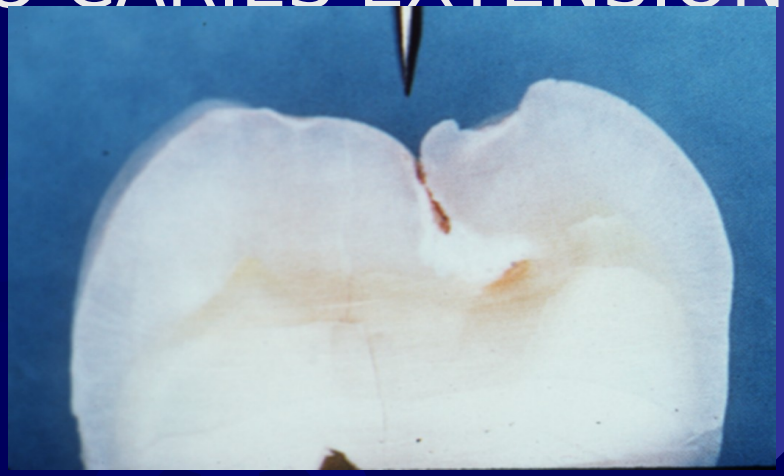
CONDITION:



- DEEP DEVELOPMENTAL GROOVES
- OCCLUSAL : POSTERIORS
- LINGUAL: MAX ANTERIORS
- BWX: NO CARIES EXTENSION INTO DENTIN
- GREATLY IMPACTS OUR PATIENT POPULATION
  - P&F CARIES MOST COMMON
  - UNDERSERVED DENTALLY PRIOR TO ARMY
  - LATENT EFFECT OF FLUORIDE

TREATMENT OF CHOICE: SEALANTS

- **<u>INDICATIONS</u>**:
  - DEEP, ‘PRE-CARIOUS’, OR EARLY CARIOUS GROOVES
  - NO PROXIMAL CARIES
  - MINIMAL OR NO CARIES EXTENSION INTO DENTIN

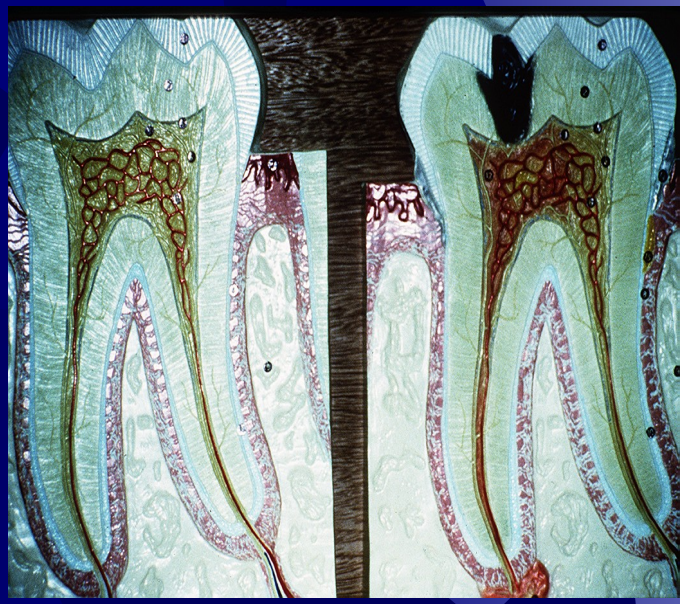


ADVANTAGES OF SEALANTS

- RELIABLE BOND: ENAMEL TO RESIN
- CONSERVATION OF TOOTH STRUCTURE
- IF RETAINED, VERY SUCCESSFUL
- CONSERVATIVE MODIFICATION OF ‘EXTENSION FOR PREVENTION’

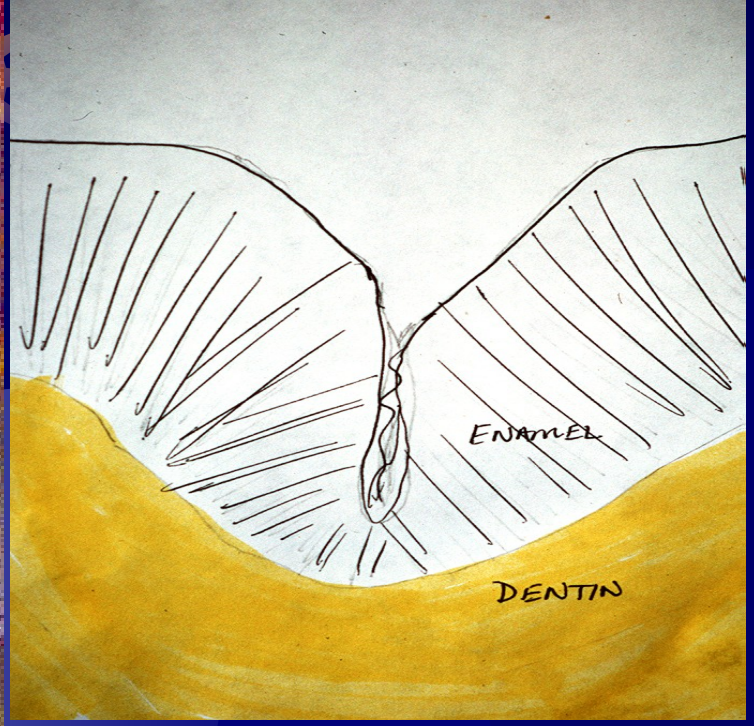
SEAL OCCULT CARIES ??

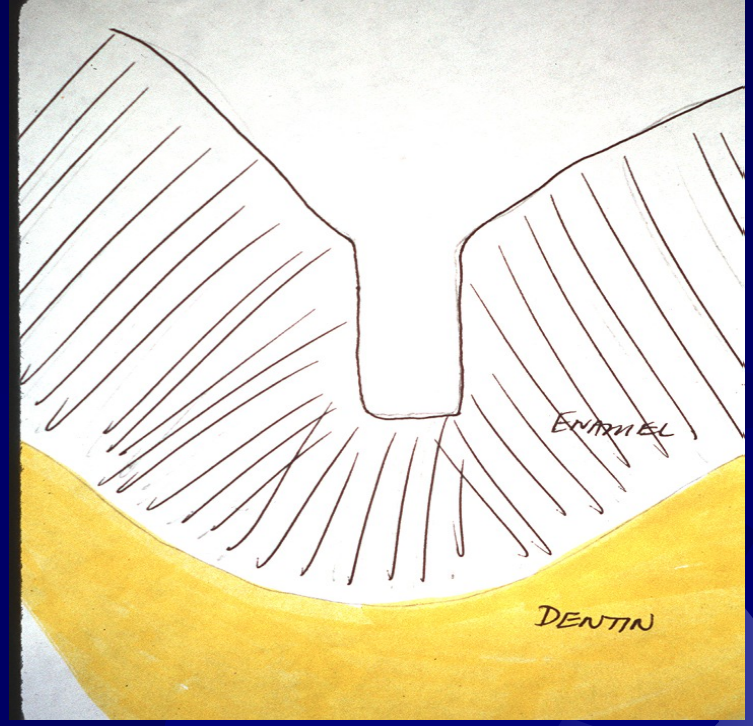
- BWX : DX CARIES IN DENTIN
- TECHNIQUE DISCIPLINE=RETENTION

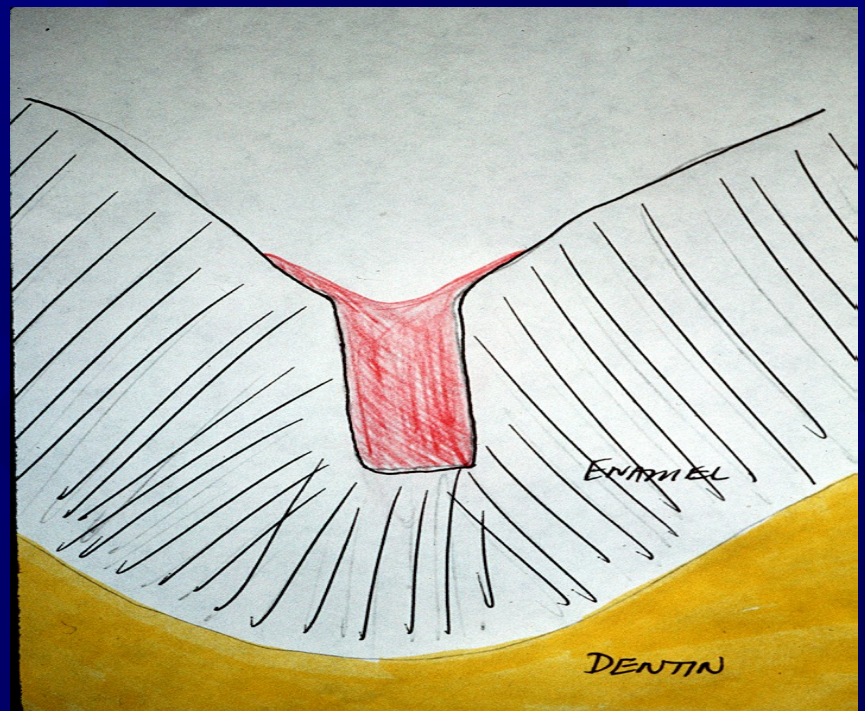


SEAL OCCULT CARIES ???

- CONCLUSIVE RESEARCH SHOWS:
  - IF SEALANTS ARE RETAINED, EVEN ‘ENTOMBED’ CARIES WILL NOT PROGRESS
  - BACTERIA CANNOT SURVIVE WITHOUT NUTRIENTS AND OXYGEN
  - RETENTION CAN BE BEST ASSURED BY:
    - ATTENTION TO TECHNIQUE DISCIPLINE
    - MECHANICALLY PREPARED GROOVES
    - MAINTENANCE


ENAMEL
DENTIN


ENAMEL
DENTIN


ENAMEL
DENTIN

CONDITION:

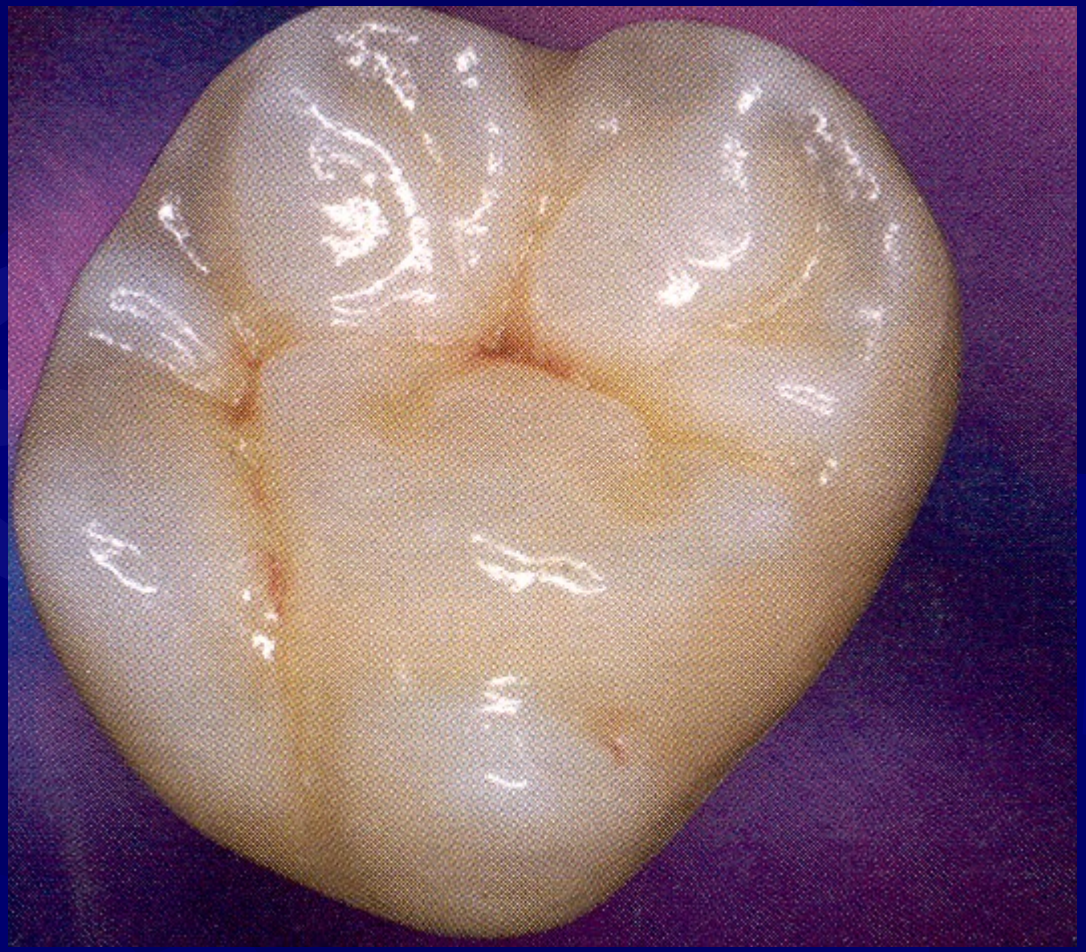
- Pit and Fissure Caries (post tooth) extending into dentin in localized area of tooth only
- No proximal caries

TREATMENT OF CHOICE: AMALGAM/RESIN WITH SEALED GROOVE EXTENSIONS

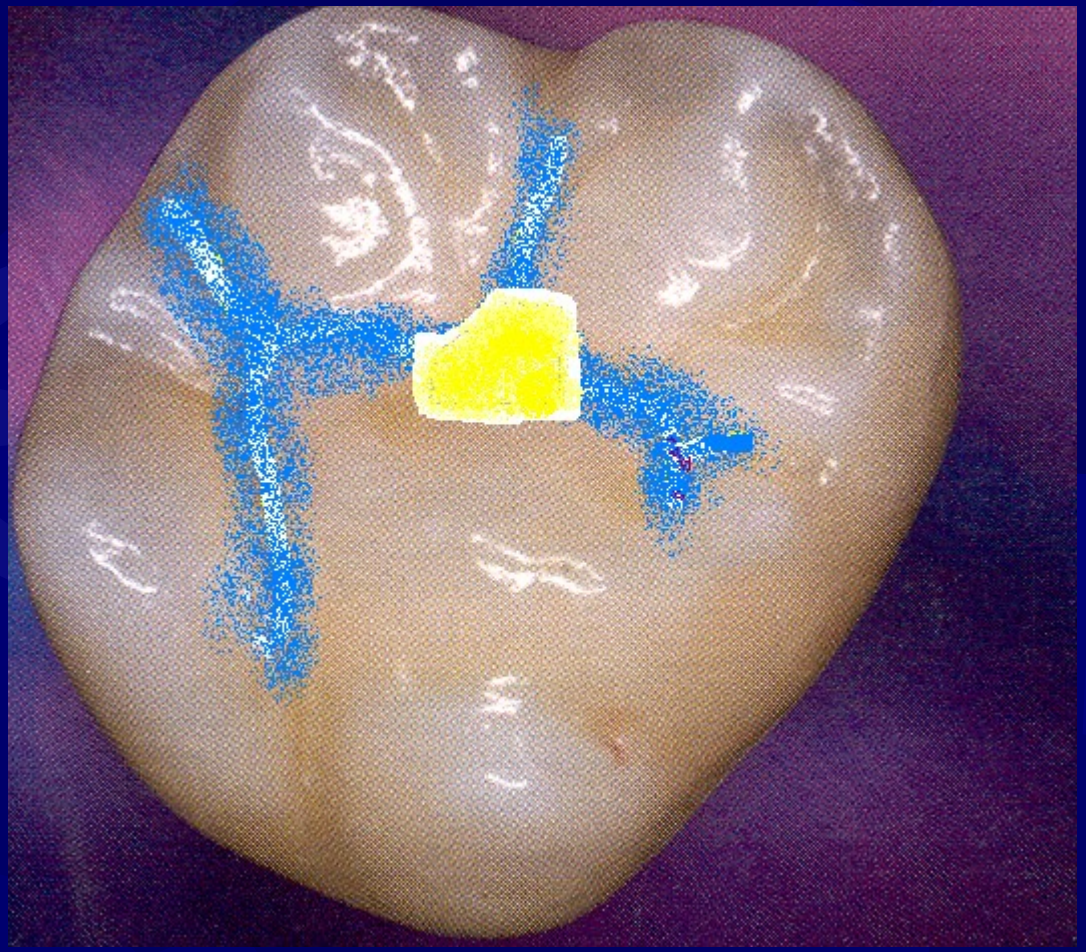
- INDICATIONS:
  - DISCRETE EXTENSION INTO DENTIN
  - GROOVES RELATIVELY UNAFFECTED
  - NO PROXIMAL CARIES

ADVANTAGES / PURPOSE:

- REMOVES UNDERMINED TOOTH STRUCTURE
- PROVIDES MORE STRUCTURAL SUPPORT THAN SEALANT ALONE
- CONSERVATION OF TOOTH STRUCTURE COMPARED TO TOTAL AMALGAM



Expanded Functio



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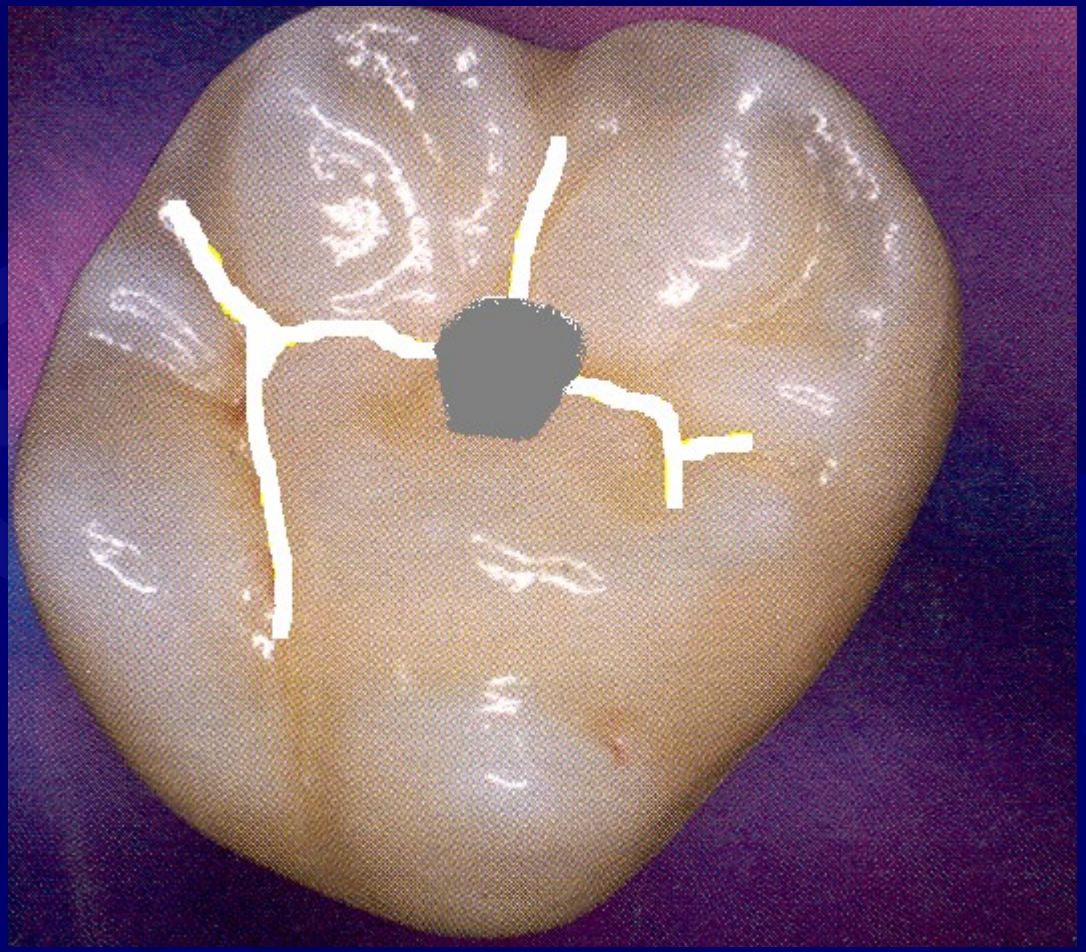

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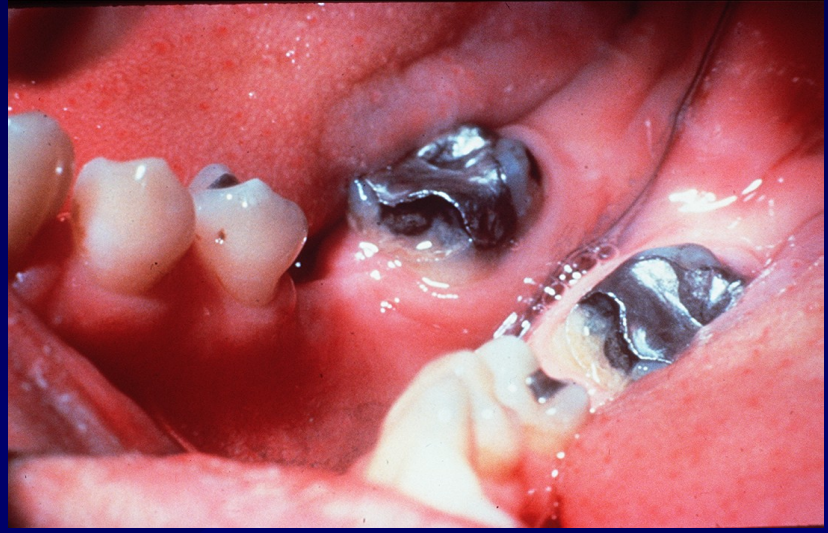
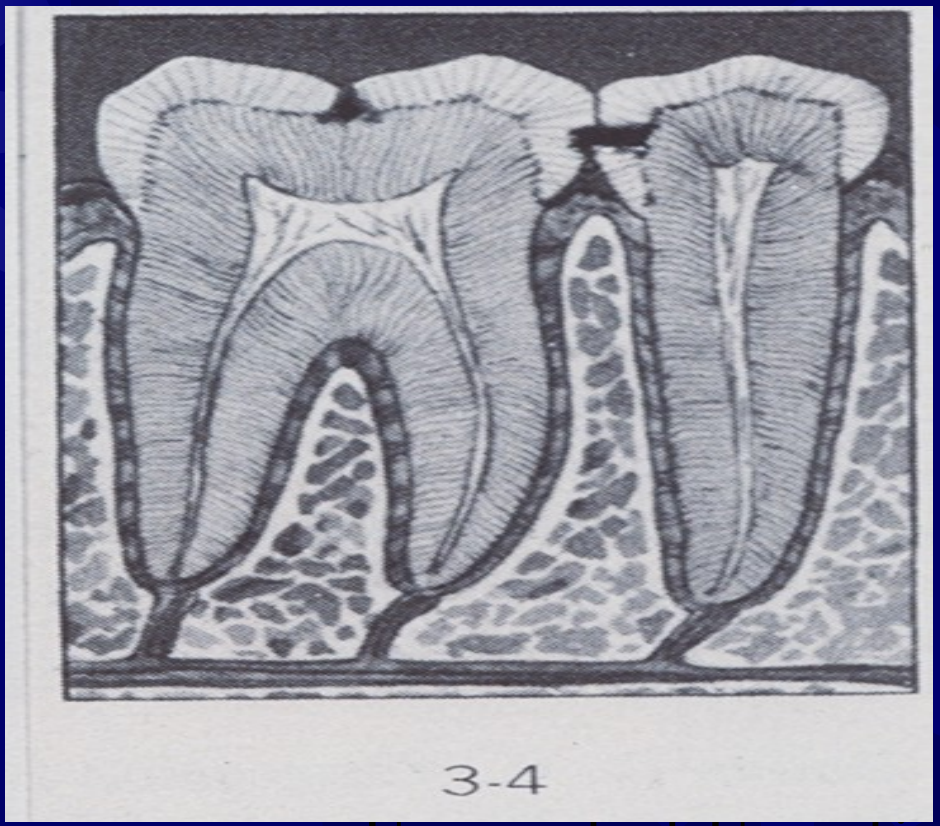
CONDITION:





3-4

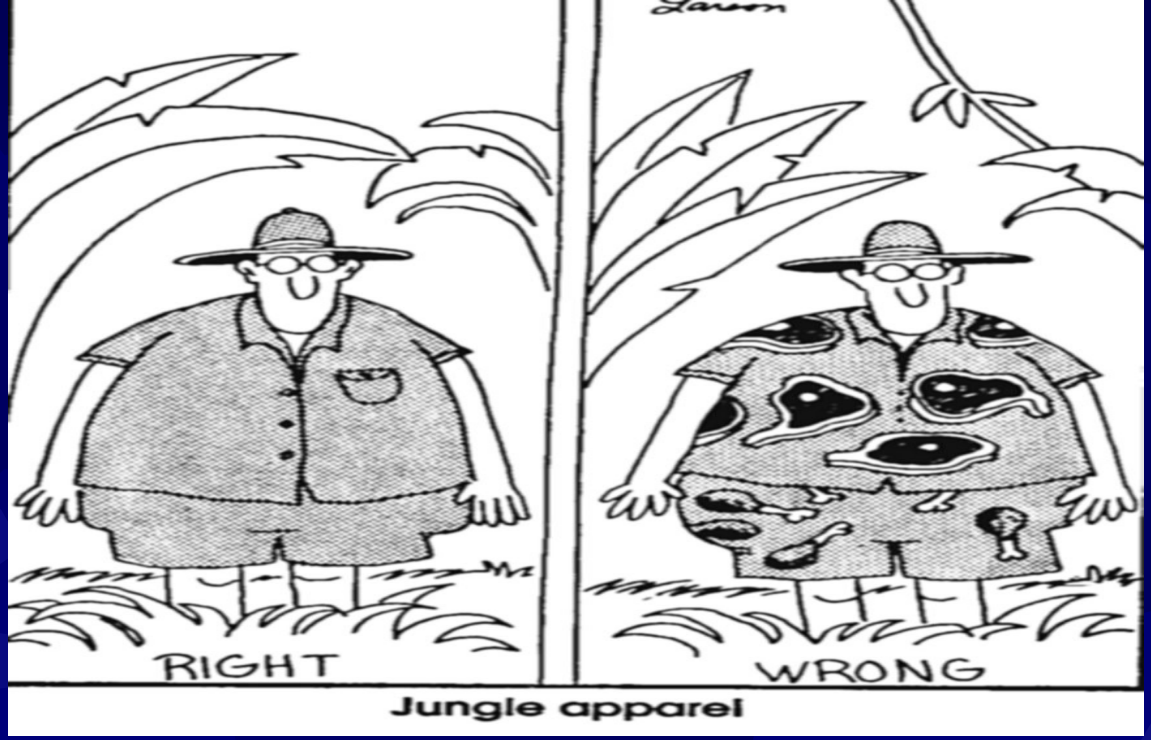
Expanded Functio

CONDITIONS:

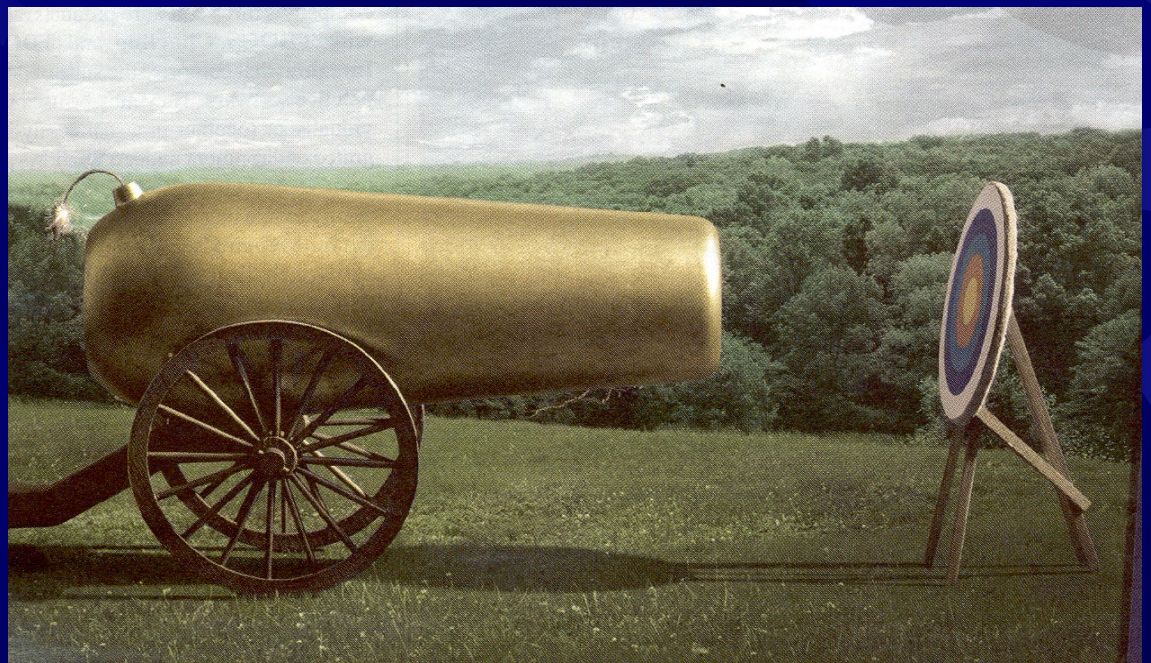
- PROXIMAL CARIES INTO DENTIN
- DEFECTIVE RESTORATION WHICH MUST BE REMOVED/REPLACED
- LARGE AMOUNT OF TOOTH STRUCTURE TO BE RESTORED (POSTERIOR TEETH)

TREATMENT OF CHOICE:

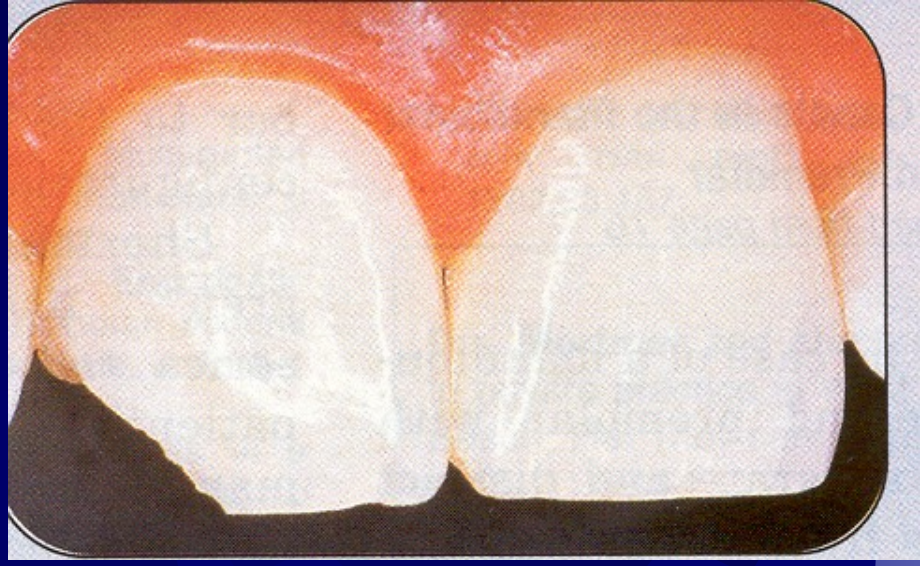
- AMALGAM
  - DEEP: PROTECT PULP WITH CAOH / BASE
  - LARGE: ENHANCE RETENTION WITH DENTIN BONDING AGENT
  - ROUTINE DEPTH AND EXTENSION: USE OF BASE / DBA CONTROVERSIAL
- RESIN COMPOSITE ???



Jungle apparel



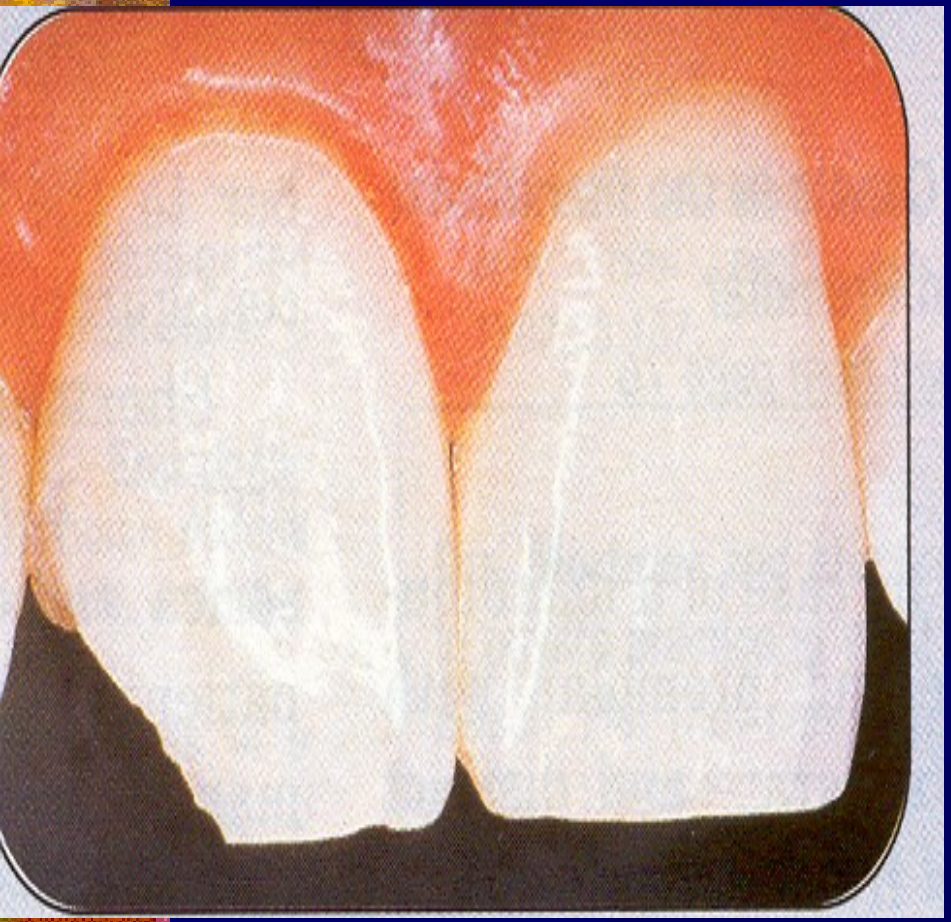
CONDITION:



- ESTHETIC SOLUTION REQUIRED
- NUANCES OF COLOR / CONTOUR MORE IMPORTANT
- SPECIAL CONDITIONS RELATIVE TO RETENTION / RESISTANCE

TREATMENT OF CHOICE:

- RESIN COMPOSITE
  - MOST ESTHETIC, DIRECT RETORATION
  - GREAT CHALLENGES WITH RETENTION, RESISTANCE, MARGINAL SEAL
- RESIN MODIFIED GLASS IONOMER
  - CARIES ACTIVE PATIENTS
  - LESS ESTHETIC
  - SANDWICH TECHNIQUE



Expanded Functio

KEYS TO SUCCESS IN PLACING RESTORATIONS ?

- COMPETENCY
  - KNOW MATERIALS AND TECHNIQUES
- BE YOUR OWN WORST CRITIC
  - SELF-EVAL YOUR WORK
  - BRUTALLY HONEST TO YOURSELF
  - ALWAYS STRIVE FOR IMPROVEMENT
- GOLDEN RULE